


Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims:

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1. (amended) A method of magnetic resonance imaging of regional blood oxygenation which comprises administering into the vasculature of a vascularised human or non-human animal subject a T₂ blood pool contrast agent, detecting a magnetic resonance signal from at least part of the vasculature of said subject into which said contrast agent distributes, and manipulating said signal to generate an indication of the partial pressure of oxygen (pO₂) in at least part of said vasculature wherein R₁ of blood in an artery is determined and hematocrit is determined therefrom.
 2. (cancelled)
 3. (original) The method of claim 1 wherein hematocrit and R₂* of blood in a vein are determined and pO₂ in said vein is determined therefrom.
 4. (original) The method of claim 1 wherein said indication is an image indicative of pO₂.
 5. (original) The method of claim 1 wherein said contrast agent is administered in a quantity such that R₂* of venous blood is less than R₂* of arterial blood.
 6. (original) The method of claim 4 wherein said contrast agent is administered in a quantity such that R₂ of venous blood is greater than R₂ of arterial blood.
 7. (original) The method of claim 6 wherein a non-spoiled gradient echo sequence is used to generate a magnetic resonance image.

8. (original) The method of claim 7 wherein a spoiled gradient echo sequence is used to generate a further magnetic resonance image and the images from the spoiled and non-spoiled gradient echo sequences are subtracted to produce an image in which the signal difference between arteries and veins is enhanced.

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